=== [1] Bootstrap Analysis — Parameter Estimation ===

Method: Resampling from original dataset (n = 29) with replacement, 1000 iterations
Estimated Weibull parameters:
- Beta (shape):
- 95% CI : [2.61, 3.99]
- Mean : 3.19
- Eta (scale):
- 95% CI : [645.01, 817.96]
- Mean : 731.18

=== [2] Monte Carlo Simulation — Lifetime Prediction ===

Method: Simulated 10,000 failure times from Weibull(beta=3.19, eta=731.18)
Predicted lifecycle percentiles:
- B10 (10% fail) : 353.96
- B50 (median) : 649.82
- B95 (95% fail) : 1029.00
- MTTF (Average) : 652.13

=== [3] Reliability Estimation at 600 Cycles ===

Method: Bootstrap reliability curve using 1000 resampled datasets
Estimated reliability at cycle = 600:
- Median reliability : 0.585
- 95% Confidence Interval : [0.430, 0.745]

=== [4] Kolmogorov-Smirnov Test ===

KS Statistic (D): 0.1138
P-value: 0.8076
Conclusion: Simulated and actual data are likely from the same distribution ($p > 0.05$).